AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (withdrawn) Atomic layer deposition arrangement comprising:

an evacuatable chamber,

at least two atomic layer deposition sources within the chamber, wherein each atomic layer deposition source is isolated from the remainder of the chamber, and

means for conveying substrate through the evacuatable chamber.

2. (withdrawn) Atomic layer deposition arrangement according to claim 1 wherein the means for conveying substrate comprises a rotatable drum.

3. (withdrawn) Atomic layer deposition arrangement according to claim 1 further comprising a grounded shield for each atomic layer deposition source.

4. (withdrawn) Atomic layer deposition arrangement according to claim 1 further comprising a substrate source chamber adjacent to the evacuatable chamber.

5. (withdrawn) Atomic layer deposition arrangement according to claim 4 wherein the substrate source chamber comprises a first rotatable drum and a second rotatable drum, the first rotatable drum having polymer film wrapped around the drum, wherein the polymer film is conveyed into the evacuatable chamber, and the second rotatable drum receives the polymer film after the polymer film exits the evacuatable chamber.

6. (withdrawn) Atomic layer deposition arrangement according to claim 5 wherein the polymer film comprises at least one selected from the group consisting of polyethylene terephthalate, polyacrylate, polypropylene, low density polyethylene, high density polyethylene, ethylene vinyl alcohol, polyphenylpropyleneoxide, polyvinyldene chloride and polyamides.

7. (withdrawn) Atomic layer deposition arrangement according to claim 6 wherein the polymer film comprises polyethylene terephthalate.

8. (currently amended) A method for preparing a coated substrate comprising:

providing an atomic layer deposition arrangement comprising an evacuatable chamber, and at least two atomic layer deposition sources within the chamber, wherein each atomic layer deposition source is isolated from the remainder of the chamber,

conveying a continuous, flexible polymer film substrate past each atomic layer deposition source in succession, and

exposing the substrate to each atomic layer deposition source as substrate is conveyed past.

9. (previously presented) A method according to claim 8 wherein conveying a substrate past each atomic deposition source comprises carrying the substrate on a rotatable drum located in the chamber.

10-11 (canceled)

12. (previously presented) A method according to claim 8 wherein the polymer is polyethylene terephthalate, low density polyethylene, high density polyethylene, polypropylene, polycarbonate, polyvinyldene chloride, ethylene vinyl alcohol, polyacrylate, polyamide or combinations thereof.

13. (previously presented) A method according to claim 8 wherein at least one atomic layer deposition source is a source of trimethylaluminum.

14. (previously presented) A method according to claim 15 wherein the oxidizing agent is oxygen, nitrous oxide, or ozone.

15. (previously presented) A method according to claim 8 wherein at least one atomic layer deposition source is a source of oxidizing agent.

16. (canceled)

17. (previously presented) A method according to claim 8 wherein conveying a substrate past each atomic layer deposition source comprises

providing a rotatable substrate source drum having substrate film wrapped there around, and providing a rotatable collection drum,

rotating the substrate source drum and conveying the substrate film into the chamber, and

rotating the collection drum and receiving substrate film exiting the chamber.

18. (previously presented) A method according to claim 8 further comprising introducing an inert gas into the chamber.

19. (previously presented) A method according to claim 18 wherein the inert gas is argon or oxygen.

20. (previously presented) A method according to claim 8 wherein a barrier coating which has a thickness of 400 Å to 50 Å is formed on the substrate.

21. (new) A method for preparing a coated substrate comprising:

providing an atomic layer deposition arrangement comprising an evacuatable chamber, and at least two atomic layer deposition sources within the chamber, wherein each atomic layer deposition source is isolated from the remainder of the chamber,

conveying a polymer film substrate past each atomic layer deposition source in succession, and

exposing the substrate to each atomic layer deposition source as substrate is conveyed past,

wherein conveying a substrate past each atomic layer deposition source comprises

providing a rotatable substrate source drum having substrate film wrapped there around, and providing a rotatable collection drum,

rotating the substrate source drum and conveying the substrate film into the evacuatable chamber, and

rotating the collection drum and receiving substrate film exiting the evacuatable chamber.

22. (new) A method according to claim 21 wherein the substrate source drum and the collection drum are in a winding chamber separate from the evacuatable chamber.

23. (new) A method according to claim 22 wherein

the step of conveying the substrate film into the evacuatable chamber further comprises conveying the film through an opening that is minimized to minimize fluid communication between the evacuatable chamber and the winding chamber, and

the step of receiving substrate film exiting the evacuatable chamber further comprises conveying the film through an opening that is minimized to minimize fluid communication between the evacuatable chamber and the winding chamber.